Case No.: 59424US003





IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:

JING, NAIYONG

Application No.:

10/720906

Group Art Unit:

Unknown

Filed:

4)

November 24, 2003

Examiner:

Unknown

Title:

POLYMER ELECTROLYTE WITH AROMATIC SULFONE CROSSLINKING

#### INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 **CERTIFICATE OF MAILING** 

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents.

P.O. Box 1450, Alexandria, VA 22313-1450 on:

Dear Sir:

Pursuant to 37 CFR §§ 1.56, 1.97, and 1.98, enclosed is a completed Form PTO-1449, citing references submitted for consideration by the Examiner. Copies of any cited foreign patents, non-patent literature, and unpublished US application documents are enclosed. Pursuant to the waiver in the Pre-OG Notice, dated July 11, 2003, copies of US patents and published US patent applications are no longer required and are not enclosed. It is respectfully requested that the Examiner initial and return the enclosed Form PTO-1449 to indicate that each reference has been considered.

It is believed that no fee is due; however, in the event a fee is required, please charge the fee to Deposit Account No. 13-3723.

If a first Office Action on the merits has been mailed prior to the mailing date of this document, please charge the fee for consideration of an Information Disclosure Statement set forth in 37 CFR § 1.17(p), and if necessary, please charge any additional fees, or credit any overpayment to Deposit Account No. 13-3723.

By:

Date

Office of Intellectual Property Counsel 3M Innovative Properties Company Facsimile No.: 651-736-3833

Respectfully submitted

Philip Y. Dahl, Reg. No.: 36,115

Telephone No.: (651) 737-4029

Substitute for form 1449A/PTO (modified)	Application Number	10/720906
INFORMATION DISCLOSURE	Filing Date	November 24, 2003
STATEMENT BY APPLICANT	First Named Inventor	Jing, Nalyong
OIPE	Art Unit	1713
(Use as many sheets as necessary)	Examiner Name	Unknown
Page 1 of 4 APR 0 2 2004	Attorney Case Number	59424US003

	Patent Documents				
	Cite	Document Number	Publication Date or		Pages, Columns, Lines, Where
Exam. Init.*	No.	Doc. Number-(Kind Code if Known)	Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
Jw	A1	US- 3,635,926	01/18/1972	Gresham et al.	
m	A2	US- 4,000,356	12/28/1976	Weisgerber et al.	
SW	А3	US- 4.073,752	02/14/1978	Ramp	
J.W	A4	US- 4,214,060	07/22/1980	Apotheker et al.	
8.0	A5	US- 4,230,549	10/28/1980	D'Agostino et al.	
1/14	A6	US- 4.242.498	12/30/1980	Rosser et al.	
47	A7.	US- 4,281,092	07/28,1981	Breazeale	
4.6	A8	US- 4,330,654	05/18/1982	Ezzell et al.	
W-10	A9	US- 4,334,082	06/08/1982	Resnick	
1.10	A10	US- 4,414,159	11/08/1983	Resnick	
7.3	A11	US- 4,440,917	04/03/1984	Resnick	
WL	A12	US- 4,454,247	06/12/1984	Resnick	
J.W.	A13	US- 4,470,889	09/11/1984	Ezzell et al.	
7.4	A14	US- 4,508,603	04/02/1985	Ukihashi et al.	
4.0	A15	US- 4,686,024	08/11/1987	Scherer, Jr. et al.	
dw	A16	US- 4,743,419	05/10/1988	Bierschenk	
JW	A17	US- 4,755,567	07/05/1988	Bierschenk et al.	
4.4	A18	US- 4,981,932	01/01/1991	Blaise et al.	
WB	A19	US- 5,260,351	11/09/1993	Logothetis	
me	A20	US- 5,264,508	11/23/1993	Ishibe et al.	
920	A21	US- 5,527,861	06/18/1996	Logothetis	
7.2	A22	US- 5,608,022	03/04/1997	Nakayama et al.	
1.16	A23	US- 5,804,650	09/08/1998	Tsuda et al.	
PM	A24	US- 5,693,748	12/02/1997	lkeda et al.	
10	A25	US- 5,798,417	08/25/1998	Howard, Jr.	
W	A26	US- 5,986,012	11/16/1999	Legare et al.	
Me	A27	US- 6.011,074	01/04/2000	Sorenson et al.	
1.9	A28	US- 6,090,895	07/18/2000	Mao et al.	

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Examiner.	MK	)n_	Date Considered:	Apnix - 20-81

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449A/PTO (modified)

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	10/720906
Filing Date	November 24, 2003
First Named Inventor	Jing, Naiyong
Art Unit	1713
Examiner Name	Unknown
Attorney Case Number	59424US003

	U.S. Patent Documents				
Exam. Init.*	Cite No.	Document Number  Doc. Number-(Kind Code if Known)	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
YW	A29	US- 6,225,368 B1	05/01/2001	D'Agostino et al.	
N-R	A30	US- 6,242,123 B1	06/05/2001	Nezu et al.	
7.W	A31	US- 6,254,978 B1	07/03/2001	Bahar et al.	
4.6	A32	US- 6,255,370 B1	07/03/2001	Vizcaino et al.	
Ju	A33	US- 6,277,512 B1	08/21/2001	Hamrock et al.	
W.L	A34	US- 6,355,370 B2	03/12/2002	Katoh et al.	
ZM	A35	US- 6,380,337 B2	04/30/2002	Abe et al.	
1/-W	A36	US- 6,387,964 B1	05/14/2002	D'Agostino et al.	
WL	A37	US- 6,423,784 B1	07/23/2002	Hamrock et al.	
$q^{\prime}$ M	A38	US- 6,426,397 B1	07/30/2002	Armand et al.	
N-L	A39	US- 6,462,228 B1	10/08/2002	Dams	
7.09	A40	US- 6,503,378 B1	01/07/2003	Fisher	
d/m	A41	US- 6,552,135 B2	04/22/2003	Schnumberger et al.	
W.B	A42	US- 6,624,328 B1	09/23/2003	Guerra	
W.D	A43	US- 6,649,703 B2	11/18/2003	Michot et al.	
4.4	A44	US- 6,670,424 B1	12/30/2003	Michot et al.	
120	A45	US- 2002/0014405 A1	02/07/2002	Arcella et al.	
Wb	A46	US- 2002/0040106 A1	04/04/2002	Wlassics et al.	
W.L	A47	US- 2003/0032739 A1	02/13/2003	Kerres et al.	
120	A48	US- 2003/0092940 A1	05/15/2003	Hamrock	
dw	A49	US- 2003/0181615 A1	09/25/2003	Ameduri et al.	
4.4	A50	US- 2003/0208014 A1	11/06/2003	Kerres et al.	
7-19	A51	US- RE 37,307 E	08/07/2001	Bahar et al.	
N-1	A52	US- RE 37,656 E	04/16/2002	Bahar et al.	
P-M	A53	US- RE 37,701 E	05/14/2002	Bahar et al.	
	A54	US-			

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Substitute for form 1449A/PTO (modified)

### INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	10/720906
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First Named Inventor	Jing, Naiyong
Art Unit	1713
Examiner Name	Unknown
Attorney Case Number	59424US003

			Foreig	n Patent Doc	uments		
Exam.	Cite		Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited	Pages, Columns, Lines, Where Relevant Passages	Translation
Init.*	No.	Ctry. Code	Number-Kind Code (If known)	MM-DD-YYYY	Document	or Relevant Figures Appear	(Check if yes)
Mb	B1	DE	26 24 203 (Abstract)	12/22/1976			
1-W	B2	DE	26 38 791 (Abstract)	03/03/1977			
Me	В3	DE	100 21 104 A1 (Abstract)	11/08/2001			
W.B	B4	EP	0 048 964 A2	04/07/1982	= .		
WB	B5	EP	1 085 038 A1	03/21/2001	•		
ab	B6	EP	0 407 937	01/16/1991			
We	B7	EP	1 179 548 A1	02/13/2002			
WL	B8	EP	1 359 142 A1	11/05/2003			
Q.D	B9	FR	2 387 260 (Abstract)	12/15/1976			
WR	B10	JP	5-314960 (Abstract)	11/26/1993			
W.1)	B11	JP	8-239494 (Abstract)	09/17/1996		,	
4-1	B12	JÞ	53-134088 (Abstract)	11/22/1978			
JW	B13	JP	53-29291 (Abstract)	03/18/1978			
NW	B14	JP	53-97988 (Abstract)	08/26/1978	,		
J.W	B15	JP	54-52690 (Abstract)	04/25/1979			
J_W	B16	JP	56-72002 (Abstract)	06/16/1981			
WE	B17	JP	64-3140 (Abstract)	01/06/1989			
wa	B18	JP	2000-119420 (Abstract)	04/25/2000			
Jm	B19	JP	2000-268834 (Abstract)	09/29/2000			X
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gin	B20	JP	2001-176524 (Abstract)	06/29/2001			
h. l	B21	JP	2001-29800 (Abstract)	02/06/2001			
7.11	B22	JP	2002-313364 (Abstract)	10/25/2002			
7-1	B23	JP	SHO 60-250009	12/10/1985			Х
W.D	B24	JP	SHO 62-288617	12/15/1987			Х
W. B	B25	wo	94/03503	02/17/1994			
124	B26	wo	99/38897 (Abstract)	08/05/1999			
1. W	B27	wo	00/52060	09/08/2000			

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	10/720906
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Art Unit	1713
Examiner Name	Unknown
Attorney Case Number	59424US003

			Foreig	n Patent Doc	uments		
Exam.	m. Cite		Foreign Patent Document	Publication Date	Name of Patentee or	Pages, Columns, Lines,	Translation
Init.*	No.	Ctry. Code	Number-Kind Code (If known)	MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear	(Check if yes)
Ju	B28	wo	01/27167 A1	04/19/2001			
wi	B29	wo	01/87992 A2 (Abstract)	11/22/2001			
14	B30	wo	01/96268 A2 (Abstract)	12/20/2001			
WL	B31	wo	02/062749 A1 (Abstract)	08/15/2002			
9-14	B32	wo	02/087001 A2	10/31/2002			-
770	B33	wo	02/50142 A1 (Abstract)	06/27/2002			
77/9	B34	wo	02/103834 A1	12/27/2002			
17-14	B35	wo	03/004463 A1 (Abstract)	01/16/2003			
1.7	B36	wo	03/022892 A2 (Abstract)	03/20/2003			
	B37						

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS
Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
900	C1	10/325,278 Filed 12/19/2002; POLYMER ELECTROLYTE MEMBRANE; (57929US002)
Vý	C2	10/697,768 Filed 10/30/2003; AQUEOUS EMULSION POLYMERIZATION OF FUNCTIONALIZED FLUOROMONOMERS (58585US002)
N.R	СЗ	Kirk-Othmer, Encyclopedia of Chemical Technology, 3d ed., Vol. 10, (1980), pp. 840 – 855.
	C4	

Examiner: In Du	Date Considered:	4-20-01

Substitute for form 1449A/PTO (modified)		Application Number		10.	10/720906				
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& TRA	DERRE			U.S. Pa	tent	Documents	-	-	
Exam. Init.*	Cite No.		cument Number er-(Kind Code if Known)	Publication Da Issue Date MM-DD-YY	в	Name of Patentee or Applicant of Cited Docum	nent	Pages, Columns, Relevant Passage Figures A	s or Relevant
10	A1	US- 3,28	32,875	11/01/196	6	Connolly et al.			
Eng.	A2	US- 6,27	74,677 B1	08/14/200	1	Tatemoto			
Jul	A3	US- 6,49	98,216 B1	12/24/200	2	Cheng			
W.L	A4	US- 6,66	67,377 B2	12/23/200	3	Feiring et al.	_		
	A5	US-						-	
	A6	US-							
	A7	US-							
	A8	US-							
	A9	US-							
	A10	US-							
	A11	US-							
	-			Foreign I	Paten	it Documents			
Exam.	Cite	Fon	eign Patent Document	Publicati	ion Date	Name of Patentee or		s, Columns, Lines,	Translation
Init.*	No.	Ctry. Code	Number-KindCode (If kno	mM-DD		Applicant of Cited Document		Relevant Passages vant Figures Appear	(Check if yes)
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Application Number	10/720906
Filing Date	November 24, 2003
First Named Inventor	Jing, Naiyong
Art Unit	1713
Examiner Name	Bernard Lipman .
Attorney Case Number	59424US003

	U.S. Patent Documents						
Exam. Cite	Document Number	Publication Date or Issue Date	Name of Patentee	Pages, Columns, Lines, When			
!nit.*	No.	Doc. Number-(Kind Code if Known)	MM-DD-YYYY	or Applicant of Cited Document	Relevant Passages or Relevant Figures Appear		
y 2	A1	US- 4,218,542	08/19/1980	Ukihashi et al.			
0.2	A2	US- 4,602,045	07/22/1986	Markus et al.			
da	A3	US- 5,330,626	07/19/1994	Banerjee			
7.2	A4	US- 5,466,930 :	11/14/1995	Schlenoff			
كعر	A5	US- 6,224,994 B1	05/01/2001	Asukabe et al.			
$\mathcal{F}_{\mathcal{M}}$	A6	US- 2003/181572	09/25/2003	Tan et al.			
	A7	US-					
	A8	US-					
	A9	US-					

	Foreign Patent Documents						
Exam.	Exam. Cite Foreign Patent Document		Foreign Patent Document Publication Date Name	Name of Patentee or Applicant	Pages, Columns, Lines, Where Relevant	Translation	
Init.*	No.	Ctry. Code	Number-Kind Code (If known)	MM-DD-YYYY	of Cited Document	Passages or Relevant Figures Appear	(Check if yes)
Ju	B1	EP	0 422 231 B1	12/27/1995		-	
لبرو	B2	EP	1 091 435 A1	04/11/2001	Daikin Industries, Ltd.		
W/	В3	wo	97/17381	05/15/1997	AlliedSignal Inc.		
0	B4		:				

		OTHER DOCUMENTS	
Exam.	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation (Check if yes)
Pm	C1	Gab-Jin Hwang et al.; "Preparation Of Cation Exchange Membrane As A Separator For The All-Vanadium Redox Flow Battery", Journal of Membrane Science, Elsevier Scientific Publ. Company, Amsterdam, NL, Vol. 120, No. 1, October 30,1996, pp. 55 – 67.	
	C2	.:	
	C3		

Examiner:	en Wa	Date Considered:	A-20-21